Abstract:

Iris recognition is one of the most powerful techniques for biometric identification ever developed. Commercial systems based on the algorithms developed by Daugman have been available since 1995 and have been used in a variety of practical applications. However, all currently available systems impose substantial constraints on subject position and motion during the recognition process. In this paper we present results of our efforts to substantially reduce constraints on position and motion through the use of large format cameras, video synchronized strobed illumination and specularity based image segmentation. We discuss the design tradeoffs we made in developing the system and the performance we have been able to achieve.

Biography:

J. R. Matey received a BS in physics from Carnegie-Mellon University in 1973 and MS and Ph.D. from the University of Illinois, Urbana in 1974 and 1978. He joined the David Sarnoff Research Center in 1977 and was appointed Senior Member of Technical Staff in 1992.

Dr. Matey's research interests include instrumentation, measurement science and computer vision. His current work includes development of measurement and instrumentation systems for laboratory, health care and industry and application of computer vision to iris and face recognition. He has 15 patents and more than 50 papers in instrumentation, measurement science, biometrics and industrial processes.

Dr. Matey is a member of Phi Kappa Phi, Sigma Xi and the American Physical Society. He is a Senior Member of the IEEE. He served on the Editorial Board of the Review of Scientific Instruments from 1984 to 1987 and 2002-2004 and is currently a Consulting Editor for that journal. He was chair of the Instrumentation and Measurement Science Group of the APS 1989-92 and editor of the Laboratory Applications Department of Computers in Physics magazine from 1993 through 1998. He was an Adjunct Professor at LaSalle University (1983-1987) and at Rider University (2000-2004).